CLAIMS

We claim:

1. A pallet, comprising:

at least one top support member adapted to support cargo and having at least one substantially flat top surface and a bottom surface;

at least two support blocks coupled to the at least one top support member for positioning the top surface of the pallet above a surface, the at least two support blocks having at least a top surface, a bottom surface, and a side surface;

wherein the at least two support blocks are spaced apart a sufficient distance to receive a lifting member; and

wherein at least one of the support blocks has an oval cross-section having a first end and a second end along a longitudinal axis of the support block; and

wherein the first end is positioned proximate to a side surface of the at least one top support member and the longitudinal axis of the support block is aligned so that the first end guides a lifting member into a lifting position under the at least one top support member.

2. The pallet of claim 1, further comprising at least one bottom support member coupled to the bottom surfaces of the at least two support blocks, wherein the bottom support member further comprises a bottom surface configured to rest stably on a flat surface.

3. The pallet of claim 1, wherein the at least two support blocks comprise nine support blocks, wherein a first group of three support blocks are positioned in a first row, a second group of three support blocks are positioned in a second row, and a third group of three support blocks are positioned in a third row.

4. The pallet of claim 3, wherein the first, second, and third rows are positioned substantially parallel to each other and the support blocks positioned proximate to an outer edge of the top support member are aligned so that a first end of the support blocks guides a lifting member into a lifting position under the at least one top support member.

5. The pallet of claim 4, wherein the top support member is formed from at least three cross supports positioned generally parallel to each other, wherein the first, second, and third rows of support blocks support the three cross supports, and wherein the top support member further comprises a plate coupled to a top surface of the three cross supports and forming the top surface of the top support member.

6. The pallet of claim 1, wherein at least one of the at least two support blocks is formed from a composite material comprising at least one cellular material and a thermoplastic resin.

7. The pallet of claim 6, wherein the composite material is selected from the group consisting of polypropylene and polyethylene.

8. The pallet of claim 7, wherein the polyethylene has a density between about 0.9 grams per cubic centimeter and about 0.98 grams per cubic centimeter.

9. The pallet of claim 7, wherein the thermoplastic resin is selected from the group consisting of a linear low density polyethylene, an ultra low density polyethylene, a low density polyethylene, a high density polyethylene, and an ultra high molecular weight polyethylene.

10. The pallet of claim 7, wherein the polypropylene is formed from the group consisting of homopolymers and copolymers having densities between about 0.80 grams per cubic centimeter and about 0.99 grams per cubic centimeter.

11. The pallet of claim 6, wherein the at least one cellular material is comprised of wood flour having a particle size between about 0.1 millimeters and about 1.0 millimeters.

12. The pallet of claim 6, wherein the concentration of the at least one cellular material in the composite is between about 40 percent and about 60 percent.

13. The pallet of claim 6, wherein the cellular material is formed from at least one wood particle having diameters between about 0.05 mm and about 4 mm.

14. The pallet of claim 13, wherein the cellular material is formed from at least one wood particle having diameters between preferably between 0.1 mm and 1 mm.

15. The pallet of claim 14, wherein the cellular material is formed from at least one wood particle having diameters between about 0.177 mm to about 0.42 mm.

16. The pallet of claim 6, wherein the cellular material is selected from the group consisting of a wood species, linen flax shives, bagasse from sugar cane, jute, rice husks, paper fiber, recycled paper, nut shells, cornhusks, and bamboo.

17. The pallet of claim 1, wherein at least one of the at least two support blocks is formed from a composite material comprising at least one cellular material and at least one thermosetting resin.

18. The pallet of claim 17, wherein the at least one thermosetting resin is selected from the group comprising polyesters, epoxies, and vinylesters.

19. The pallet of claim 1, wherein the at least one support block with an oval cross-section further comprises a first substantially flat surface comprising a portion of the first end and a second substantially flat surface comprising a portion of the second end.

20. The pallet of claim 19, wherein the at least one support with an oval cross-section further comprises a third substantially flat surface positioned on a side of the

support block between the first and second ends and a fourth substantially flat surface positioned on a side of the support block between the first and second ends and opposite to the third substantially flat surface.

21. The pallet of claim 19, wherein the at least one support with an oval cross-section is selected from the group consisting of six substantially flat sides forming a hexagon, a tear drop shape, an egg shape, an elongated hexagon, a diamond shape, and a kite shape.

22. A pallet, comprising:

at least one top support member adapted to support cargo and having at least one substantially flat top surface and a bottom surface;

a plurality of support blocks coupled to the bottom surface of the at least one top support member positioning the top surface of the pallet above a surface and forming at least two cavities for receiving a lifting member, the at least two support blocks having at least a top surface, a bottom surface, and a side surface;

wherein at least one of the support blocks has an oval cross-section formed from a composite comprising at least one wood species and a thermoplastic resin, and having a first end and a second end along a longitudinal axis of the support block and the first end is positioned proximate to a side surface of the at least one top support member and the longitudinal axis of the support block is aligned so that the first end guides a lifting member into a lifting position under the at least one top support member.

23. The pallet of claim 22, further comprising at least one bottom support member coupled to the bottom surfaces of the at least two support blocks, wherein the bottom support member further comprises a bottom surface configured to rest stably on a flat surface.

24. The pallet of claim 22, wherein the at least two support blocks comprise nine support blocks, wherein a first group of three support blocks are positioned in a first row, a second group of three support blocks are positioned in a second row, and a third group of three support blocks are positioned in a third row.

25. The pallet of claim 24, wherein the first, second, and third rows are positioned substantially parallel to each other and the support blocks positioned proximate to an outer edge of the top support member are aligned so that a first end of the support blocks guides a lifting member into a lifting position under the at least one top support member.

26. The pallet of claim 25, wherein the top support member is formed from at least three cross supports positioned generally parallel to each other, wherein the first, second, and third rows of support blocks support the three cross supports, and wherein the top support member further comprises a plate coupled to a top surface of the three cross supports and forming the top surface of the top support member.

27. The pallet of claim 22, wherein at least one of the two support blocks is formed from a composite material comprising at least one cellular material and a thermoplastic resin.

28. The pallet of claim 27, wherein the composite material is selected from the group consisting of polypropylene and polyethylene.

29. The pallet of claim 27, wherein the polyethylene has a density between about 0.9 grams per cubic centimeter and about 0.98 grams per cubic centimeter.

30. The pallet of claim 28, wherein the thermoplastic resin is be selected from the group consisting of a linear low density polyethylene, an ultra low density polyethylene, a low density polyethylene, a high density polyethylene, and an ultra high molecular weight polyethylene.

31. The pallet of claim 29, wherein the polypropylene is formed from the group consisting of homopolymers and copolymers having densities between about 0.80 grams per cubic centimeter and about 0.99 grams per cubic centimeter.

32. The pallet of claim 27, wherein the at least one cellular material is comprised of wood flour having a particle size between about 0.1 millimeters and about 1.0 millimeters.

33. The pallet of claim 27, wherein the concentration of the at least one cellular material in the composite is between about 40 percent and about 60 percent.

34. The pallet of claim 28, wherein the cellular material is formed from at least one wood particle having diameters between about 0.05 mm and about 4 mm.

35. The pallet of claim 34, wherein the cellular material is formed from at least one wood particle having diameters between preferably between 0.1 mm and 1 mm.

36. The pallet of claim 35, wherein the cellular material is formed from at least one wood particle having diameters between about 0.177 mm to about 0.42 mm.

37. The pallet of claim 27, wherein the cellular material is selected from the group consisting of a wood species, linen flax shives, bagasse from sugar cane, jute, rice husks, paper fiber, recycled paper, nut shells, cornhusks, and bamboo.

38. The pallet of claim 22, wherein at least one of the support blocks is formed from a composite material comprising at least one cellular material and at least one thermosetting resin.

39. The pallet of claim 38, wherein the at least one thermosetting resin is selected from the group comprising polyesters, epoxies, and vinylesters.

40. The pallet of claim 22, wherein the at least one support block with an oval cross-section further comprises a first substantially flat surface comprising a portion of the first end and a second substantially flat surface comprising a portion of the second end.

41. The pallet of claim 40, wherein the at least one support with an oval cross-section further comprises a third substantially flat surface positioned on a side of the support block between the first and second ends and a fourth substantially flat surface positioned on a side of the support block between the first and second ends and opposite to the third substantially flat surface.

42. The pallet of claim 22, wherein the at least one support with an oval cross-section is selected from the group consisting of six substantially flat sides forming a hexagon, a tear drop shape, an egg shape, an elongated hexagon, a diamond shape, and a kite shape.

43. A pallet support for supporting a top support member of a pallet and creating at least one cavity under the top support member for receiving a lifting member capable of lifting the pallet off of a surface, comprising:

a body having a top surface, a bottom surface generally opposite to the top surface, and at least one side wall, the top surface adapted to be coupled to a bottom surface of a top support member and the bottom surface adapted to support the top support member;

wherein the body is formed from a composite comprising at least one cellular material and at least one plastic.

44. The pallet of claim 43, wherein the plastic is selected from the group consisting of polypropylene and polyethylene.

45. The pallet of claim 44, wherein the polyethylene has a density between about 0.9 grams per cubic centimeter and about 0.98 grams per cubic centimeter.

46. The pallet of claim 44, wherein the thermoplastic resin is be selected from the group consisting of a linear low density polyethylene, an ultra low density polyethylene, a low density polyethylene, a high density polyethylene, and an ultra high molecular weight polyethylene.

47. The pallet of claim 4, wherein the polypropylene is formed from the group consisting of homopolymers and copolymers having densities between about 0.80 grams per cubic centimeter and about 0.99 grams per cubic centimeter.

48. The pallet of claim 43, wherein the at least one cellular material is comprised of wood flour having a particle size between about 0.1 millimeters and about 1.0 millimeters.

49. The pallet of claim 43, wherein the concentration of the at least one cellular material in the composite is between about 40 percent and about 60 percent.

50. The pallet of claim 43, wherein the cellular material is formed from at least one wood particle having diameters between about 0.05 mm and about 4 mm.

51. The pallet of claim 50, wherein the cellular material is formed from at least one wood particle having diameters between preferably between 0.1 mm and 1 mm.

52. The pallet of claim 51, wherein the cellular material is formed from at least one wood particle having diameters between about 0.177 mm to about 0.42 mm.

53. The pallet of claim 43, wherein the cellular material is selected from the group consisting of a wood species, linen flax shives, bagasse from sugar cane, jute, rice husks, paper fiber, recycled paper, nut shells, cornhusks, and bamboo.

54. The pallet of claim 43, wherein the plastic is at least one thermosetting resin.

55. The pallet of claim 54, wherein the at least one thermosetting resin is selected from the group comprising polyesters, epoxies, and vinylesters.

56. The pallet of claim 43, wherein at least one of the support blocks has an oval cross-section having a first end and a second end along a longitudinal axis of the support block.

57. The pallet of claim 56, wherein the at least one support block with an oval cross-section further comprises a first substantially flat surface comprising a portion of the first end and a second substantially flat surface comprising a portion of the second end.

58. The pallet of claim 57, wherein the at least one support with an oval cross-section further comprises a third substantially flat surface positioned on a side of the support block between the first and second ends and a fourth substantially flat surface positioned on a side of the support block between the first and second ends and opposite to the third substantially flat surface.

59. The pallet of claim 57, wherein the at least one support with an oval cross-section is selected from the group consisting of six substantially flat sides forming a hexagon, a tear drop shape, an egg shape, an elongated hexagon, a diamond shape, and a kite shape.

60. A pallet support for supporting a top support member of a pallet and creating at least one cavity under the top support member for receiving a lifting member capable of lifting the pallet off of a surface, comprising:

a body having a top surface, a bottom surface generally opposite to the top surface, and at least one side wall, the top surface adapted to be coupled to a bottom surface of a top support member and the bottom surface adapted to support the top support member;

wherein the body has an oval cross-section and includes a first end and a second end along a longitudinal axis of the support block.

61. The pallet of claim 60, wherein the pallet support having an oval cross-section further comprises a first substantially flat surface comprising a portion of the first end and a second substantially flat surface comprising a portion of the second end.

62. The pallet of claim 60, wherein the pallet support with an oval cross-section further comprises a third substantially flat surface positioned on a side of the support block between the first and second ends and a fourth substantially flat surface positioned on a side of the support block between the first and second ends and opposite to the third substantially flat surface.

63. The pallet of claim 62, wherein the pallet support with an oval cross-section is selected from the group consisting of six substantially flat sides forming a hexagon, a tear drop shape, an egg shape, an elongated hexagon, a diamond shape, and a kite shape.